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| APPLICATION NO.            | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.    | CONFIRMATION NO. |
|----------------------------|-------------|----------------------|------------------------|------------------|
| 10/643,555                 | 08/18/2003  | Stephen J. Miller    | T-6282                 | 4922             |
| 34014                      | 7590        | 11/08/2005           | EXAMINER               |                  |
| CHEVRON TEXACO CORPORATION |             |                      | JOHNSON, CHRISTINA ANN |                  |
| P.O. BOX 6006              |             |                      | ART UNIT               |                  |
| SAN RAMON, CA 94583-0806   |             |                      | PAPER NUMBER           |                  |
|                            |             |                      | 1725                   |                  |

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/643,555 | <b>Applicant(s)</b><br>MILLER ET AL. |  |
|                              | <b>Examiner</b><br>Christina Johnson | <b>Art Unit</b><br>1725              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 21-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-20 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) _____       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/1/04, 8/29/05</u> . | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group I, claims 1-19, in the reply filed on August 29, 2005 is acknowledged.
2. Claims 20-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on August 29, 2005.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Angevine et al.

Angevine et al. (US 4,683,214) discloses a catalyst composition comprising a silicon-containing zeolite (column 3, line 50 – column 4, line 8). The reference teaches that the zeolite is washed with water to remove sodium prior to calcination to remove the organic template (column 7, lines 40-50 and column 7, line 60 – column 8, line 25). In an example, a washed zeolite is prepared which contains less than 0.05% sodium (Example 1).

The reference does not disclose the conductivity of the wash filtrate. However, given that the reference teaches washing the zeolite to remove sodium and given the

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low levels of sodium in the zeolites produced, it is the position of the examiner that the conductivity of the wash filtrate would inherently be the same. When the examiner has reason to believe that the functional language asserted to be critical for establishing novelty in claimed subject matter may in fact be an inherent characteristic of the prior art, the burden of proof is shifted to Applicants to prove that the subject matter shown in the prior art does not possess the characteristics relied upon. *In re Fitzgerald et al.* 205 USPQ 594.

As each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Angevine et al.

### ***Claim Rejections - 35 USC § 102/103***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 11-15 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kulkarni et al.

Kulkarni et al. (US 6,508,860) discloses a mixed matrix membrane comprising particles of a treated molecular sieve dispersed in a continuous phase consisting essentially of a matrix polymer (column 2, lines 35-40). The molecular sieve may be silanated (column 10, lines 40-60). Suitable molecular sieves include SSZ-13, which may be first treated by cation exchange to remove sodium therefrom (column 6, lines 20-65).

The reference does not disclose the claimed product by process limitation, i.e. "wherein the water washed silica containing molecular sieves are sufficiently water washed to remove surface remnants prior to being dispersed into the organic polymer such that if the water washed silica containing molecular sieves are subjected to a Sieve Wash Conductivity Test, a wash filtrate is produced having a conductivity of less than 110 micro mhos/cm." However, it is the position of the examiner, consistent with the instant disclosure, that the water washing results in a zeolite having a reduced sodium content. Therefore, the disclosed product of the prior art and the instantly claimed product appear to be essentially the same, comprised of the same components, and used in the same manner. In the event any differences can be shown for the product of the product-by-process claims 11-15 as opposed to the product taught by the prior art, such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results. See *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985). Also, when the examiner has found

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a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-4 and 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni et al. in view of Angevine et al.

Kulkarni et al. (US 6,508,860) discloses a mixed matrix membrane comprising particles of a treated molecular sieve dispersed in a continuous phase consisting essentially of a matrix polymer (column 2, lines 35-40). The molecular sieve may be silanated (column 10, lines 40-60). Suitable molecular sieves include SSZ-13, which may be first treated by cation exchange to remove sodium therefrom (column 6, lines 20-65). The reference teaches that the membrane is formed by dissolving the polymer in a suitable solvent, followed by dispersing the silanted molecular sieve in the resulting polymer solution (column 13, lines 35-45). The membrane is then heated to remove the solvent, resulting in a mixed matrix membrane (column 13, lines 45-65).

The reference does not disclose that the molecular sieve is water washed, until filtrate having the claimed conductivity is obtained.

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Angevine et al. (US 4,683,214) discloses a catalyst composition comprising a silicon-containing zeolite (column 3, line 50 – column 4, line 8). The reference teaches that zeolite may be washed with water or ion-exchanged to remove sodium prior to calcination to remove the organic template (column 7, lines 40-50 and column 7, line 60 – column 8, line 25). In an example, a washed zeolite is prepared which contains less than 0.05% sodium (Example 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Kulkarni et al. in light of the teaching by Angevine et al. to substitute the cation exchange step for a water washing step. Angevine et al. teaches that water washing is equivalent to ion-exchange for the removal of sodium in zeolites, thereby giving one of ordinary skill motivation to substitute one for the other with a reasonable expectation of success. It is the position of the examiner that the removal of sodium by water washing would necessarily result in a filtrate having the claimed conductivity.

With reference to claims 11-15, it is the position of the examiner that the claimed product by process limitations would not patentably distinguish the claimed membrane from the prior art membrane. However, if it is shown that the claimed membrane differs by virtue of its process of making from the membrane disclosed by Kulkarni et al., it is the position of the examiner that the teachings of Kulkarni et al. as modified by Angevine et al. render the claimed membrane obvious, as discussed above.



***Allowable Subject Matter***

10. Claims 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest a method for preparing silica-containing molecular sieves comprising a step of washing the molecular sieve with a basic water solution having a pH of at least 9 prior to the washing step.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Johnson whose telephone number is (571) 272-1176. The examiner can normally be reached on Monday-Friday, 7:30-5, with Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Christina Johnson  
Primary Examiner  
Art Unit 1725

11/4/05

CAJ  
November 4, 2005